

Amendments to the Specification:

Please amend the paragraph starting at page 8, line 26 and ending at page 9, line 9 to read, as follows.

On the other hand, an electrophotographic image forming apparatus has its own problems. ~~problem~~. That is, the image density level at which an image is formed by an electrophotographic image forming apparatus is substantially affected by the temperature and humidity at which the apparatus is used, the nonuniformity in the photosensitive member properties and developer properties, the developing apparatus condition in terms of length of usage or wear. In particular, in the case of a color image forming apparatus, even the hue in which an image is formed is affected.

Please amend the paragraphs starting at page 14, line 14 and ending at page 14, line 21 to read, as follows.

Figure 13 is a schematic sectional view of the essential portion of an example of a known ~~[[an]]~~ image forming apparatus. ~~apparatus in accordance with the prior arts.~~

Figure 14 is a schematic sectional view of the essential portion of the image forming apparatus ~~in accordance with the prior arts~~, shown in Figure 13, for describing how the development bias and blade bias are applied.

Please amend the paragraph starting at page 15, line 23 and ending at page 16, line 14 to read, as follows.

The image forming apparatus 100 has first to fourth image formation stations (image formation units) PY, PM, PC, and PBk, an image forming means, which form

yellow (Y), magenta (M), cyan (C), and black (Bk) images, respectively. The four image formation units PY, PM, PC, and PBk are disposed in parallel, perpendicular to an intermediary transfer member (transfer belt) 31, as a transfer medium, which circularly moves in the direction indicated by an arrow mark in the drawing. More specifically, listing from the bottom in Figure 1, yellow, magenta, cyan, and black image formation units PY, PM, PC, and PBk are vertically aligned in parallel with ~~to~~ each other, and a full-color image is formed by sequentially transferring yellow, magenta, cyan, and black color images from the image formation units PY, PM, PC, and PBk, respectively onto the intermediary transfer belt 31, yielding thereby a full-color image, on the belt 31.

Please amend the paragraph starting at page 20, line 25 and ending at page 21, line 7 to read, as follows.

Described ~~To describe~~ in more detail with reference to Figure 2, the developing apparatus 13 comprises: a developer container (developing apparatus main frame) 20, in which nonmagnetic toner as developer (single-component toner as single-component developer), is contained; a development roller 16 as a developer bearing member; a development blade 17 as a developer regulating member; a toner supply roller 18 as a developer supplying member; and a stirring blade 19 as a developer stirring/conveying means.

Please amend the paragraph starting at page 23, line 16 and ending at page 24, line 6 to read, as follows.

In this embodiment, the development blade 17 is tilted, with its free long edge positioned upstream of the contact area between the development blade 17 and development roller 16, in terms of the rotational direction of the development roller 16; in other words, it is tilted in the so-called counter direction. More concretely, the development blade 17 is a piece of 0.1 mm thick phosphor bronze plate, which is springy. It is kept in contact with the peripheral surface of the development roller 16 so that a predetermined amount of pressure (linear pressure) is maintained between the development blade 17 and development roller 16. With the development blade 17 kept pressed against the peripheral surface of the development roller 16 in a manner to maintain the predetermined contact pressure between them, the toner particles [(10)] are frictionally charged to the negative polarity.

Please amend the paragraph starting at page 24, line 21 and ending at page 25, line 2 to read, as follows.

Incidentally, in this embodiment, the development and blade biases are negative, and for the sake of convenience, the potential levels of the development and blade biases are expressed in absolute values. ~~value~~. For example, that a given bias is greater than another bias means that it is greater in absolute value; in this embodiment, therefore, it means that a given bias is greater in the negative direction than another bias.

Please amend the paragraph starting at page 26, line 2 and ending at page 26, line 15 to read, as follows.

As described above, the toner image on the peripheral surface of the photosensitive drum 10 is transferred onto the intermediary transfer belt 31 by a transfer roller 26 <sup>[[23]]</sup> to which the primary transfer bias is being applied from a primary transfer bias applying means, and then, is transferred from the intermediary transfer belt 31 onto the transfer medium S by the secondary transfer roller 32 to which the secondary transfer bias is being applied from a secondary transfer bias power source (unshown) as a secondary transfer bias applying means. Thereafter, the toner image on the transfer medium S is fixed to the transfer medium S.

Please amend the paragraph starting at page 29, line 7 and ending at page 29, line 15 to read, as follows.

Next, the density control in this embodiment will be described. Figure 3 is a schematic sectional view of the essential portion, in particular, the portion comprising the photosensitive drum 10, developing apparatus 1, primary transfer roller 26, <sup>[[23,]]</sup> intermediary transfer belt 31, etc., of the image forming apparatus main assembly 2, for describing the structure thereof. In Figure 3, the components other than the above mentioned are not shown.

Please amend the paragraph starting at page 31, line 1 and ending at page 31, line 11 to read, as follows.

When the amount of the toner on the intermediary transfer belt 31 is zero, that is, when there is no toner on the intermediary transfer belt 31, the reflectance is 100%. <sup>[[100 %]]</sup> As the amount of the toner on the intermediary transfer belt 31 increases, the

reflectance of the intermediary transfer belt 31 reduces, that is, the amount of the light reflected toward the light receiving portion 72 reduces, because the light projected upon the intermediary transfer belt 31 from the light emitting portion 71 [[21]] is diffused by the toner on the intermediary transfer belt 31.

Please amend the paragraph starting at page 33, line 22 and ending at page 34, line 16 to read, as follows.

In this embodiment, when a density of 1.4, for example, is necessary, the potential level range for the development bias (development bias potential level range for forming an image of a referential patch) in which the development bias potential level is to be selected, is desired to be no less than -250 V (roughly -250 V - -400 V). In other words, in the case of the structural arrangement in this embodiment, as long as the adjustment is made within this range, the target density of 1.4 can be achieved, regardless of all of the factors which affect image density level, for example, the temperature and humidity at which the apparatus is used, the nonuniformity in the properties of the photosensitive drum 10 and developer, the durability of the developing apparatus 13, etc. Incidentally, the voltage range in which the development bias is to be adjusted ~~adjustment~~ is related to the potential level of a latent image, and therefore, it should be adjusted according to the settings of the dark point potential level of the photosensitive drum, or light point potential level of the photosensitive drum affected by the intensity of the laser beam.

Please amend the paragraph starting at page 35, line 22 and ending at page 36, line 11 to read, as follows.

In comparison, in this embodiment, two or more (four in this embodiment) developing apparatuses 13 are allowed to share a single blade bias power source, that is, the blade bias power source 22, as shown in Figure 3, making it unnecessary to increase the size of an electric circuit board, avoiding therefore a cost increase. In other words, this embodiment makes it possible to reduce apparatus size as well as apparatus cost. However, unlike the above described comparative example, in the case of this embodiment, it is impossible to individually adjust the blade biases to be applied with the potential levels of the development biases for the developing apparatuses 13 selected based on the detected density levels of the images of the referential density control patch T.

Please amend the paragraph starting at page 37, line 20 and ending at page 38, line 8 to read, as follows.

On the other hand, if the difference in potential level between the development roller 16 and development blade 17 is set to be excessively large, it is possible that toner is deteriorated by the current flowing as a result of ~~flowed by~~ this potential level difference, solidly adhering to the development blade 17. Described ~~To described~~ more concretely, in the case of the structural arrangement in this embodiment, if the difference in potential level between the development roller 16 and development blade 17, in a preset ambience, is no less than 350 V (potential level difference threshold for solid toner adhesion: maximum potential level difference), there is the possibility of the solid toner adhesion. This condition can be expressed in the following inequality:

$$V_{r_{\min}} - V_b < 350 \text{ V} \quad \dots (2)$$

Please amend the paragraph starting at page 44, line 22 and ending at page 44, line 25 to read, as follows.

Next, it is determined, as in the first example, whether or not this hypothetical value for the blade bias potential level  $V_b$  satisfies Inequalities ~~Inequities~~ (1) and (2) (Steps 4 and 6). [[5).]]

Please amend the paragraph starting at page 50, line 3 and ending at page 50, line 11 to read, as follows.

Described ~~To described~~ in more detail, referring to Figure 10, an ambience sensor (temperature-humidity sensor) 80 as an ambient condition detected means detects the state of the ambience in which the image forming apparatus 100 is placed. The solid toner adhesion to the development blade, for which the blade bias is responsible, is more likely to occur when the ambient temperature is higher, as well as when current flow is smaller.

Please amend the paragraph starting at page 52, line 21 and ending at page 53, line 9 to read, as follows.

Described ~~To described~~ in more detail, the hypothetical value calculated in Step 4 is substituted for the blade bias level  $V_b$ , and it is determined (Step 5) whether or not the toner coat amount stabilization condition (Inequality (1)) is satisfied for the developing apparatus, which is largest (largest in negative direction) in the absolute value selected for the potential level of the development bias, or it is determined (Step 7) whether or not the solid toner adhesion prevention condition (Inequality (3), (4), or (5)) is satisfied for the developing apparatus 13, which is smallest in the absolute value of the potential level of

the development bias. In Step 7, the solid toner adhesion threshold reflective of the ambient temperature, which was selected in Step 3 in accordance with the ambient condition, ~~ambience~~, is used.

Please amend the paragraph starting at page 60, line 8 and ending at page 60, line 26 to read, as follows.

Next, in Step 2, the potential level range is set for the development bias, for each ambience range. That is, the lowest potential level  $V_{kan\ min}$  of the development bias, for each ambience range, is calculated in consideration of the solid toner adhesion prevention condition. In this embodiment, 400 V (no more than 23°C), 365 V (23 - 30°C), and 330 (no less than 30°C), are employed as the potential level difference threshold for the solid toner adhesion, reflective of the ambient ~~ambience~~ condition, as in the second embodiment. Thus, when selecting the values for the blade bias potential levels in accordance with the ambient condition as stated above, the values of  $V_{kan\ min}$  become as follows, from the three arithmetic formulas: formulae (3) for the ambient temperature of no less than 30°C; formulae (4) for the ambient temperature of no more than 23°C; and formulae (5) for the temperature in the range of 23 - 30°C.

Please amend the paragraph starting at page 63, line 6 and ending at page 63, line 12 to read, as follows.

If it is determined in Step 4 that the above condition is satisfied, it is determined in Step 5 whether or not the hypothetical value for the development bias potential level  $V_r$  satisfies ( $V_{kan\ min} \leq V_r$ ) portion of the development bias potential level range ( $V_{kan}$



$V_{\min} \leq V_r \leq V_{\text{kan max}}$ ) calculated in Step 2 in consideration of the ambient condition.

ambience:

Please amend Table 3 at page 65, line 4 and ending at page 65, line 14 to read, as follows.

<u>AMBIENT</u>						
<u>TEMPERATURE</u>	$\leq 23^{\circ}\text{C}$		23 - 30 °C		$\geq 30^{\circ}\text{C}$	
<u>AMBIENCE</u>						
BIAS	-170 -	-420V	-170 -	-385 V	-170 -	-350 V
RANGE						
DEV.	ROLLER	BLADE	ROLLER	BLADE	ROLLER	BLADE
DEVICE						
Bk	-320 V		-320 V		-320 V	
C	-310 V	-570 V	-310 V	-535 V	-310 V	-500 V
M	-390 V		-385 V		-350 V	
Y	-300 V		-300 V		-300 V	